

REMARKS

Claims 74, 75, 91, and 92 have been amended, claims 64, 67, 68, 70, 71, 73, and 88-90 have been cancelled without prejudice or disclaimer, and claims 93 and 94 have been added by the current amendment. Claims 74-78 and 91-94 are pending by the current amendment. Support for new claims 93 is found, for example, at page 18, line 23, and at page 19, line 38, while support for new claim 94 is found, for example, in Figure 28. Support for amended claim 91 is found, for example, in example 4 beginning at page 71, line 9, and in example 7 beginning at page 73, line 23. Consideration of the pending claims and the remarks that follow is respectfully requested.

Domestic Priority

Claims 71 and 92 have been accorded the priority of the filing date of the present application. Without addressing the propriety of this priority determination, Applicant points out that claim 71 has been cancelled and claim 92 has been amended by the current amendment.

Objections to the specification

In response to the Examiner's objection at point number 6 of the Office Action, Applicant has presently amended the specification to recite appropriate SEQ ID Numbers, including identifiers for sequences disclosed in Figure 4, and submits herewith a substitute sequence listing. The amendments are made in adherence with 37 C.F.R. § 1.821-1.825. This amendment is accompanied by a floppy disc containing the above named sequences, SEQUENCE ID NUMBERS 1-62, in computer readable form, and a paper copy of the substitute sequence information. The information contained in the computer readable disc is identical to that of the paper copy in adherence with 37 C.F.R. § 1.821(f). This amendment contains no new matter. Applicant submits that this amendment, the accompanying computer readable sequence listing, and the paper copy thereof serve to place this application in a condition of adherence to the rules 37 C.F.R. §§ 1.821-1.825.

In response to the Examiner's objection at point number 8 of the Office Action, the title of the application has been amended to "BTLA Nucleic Acids", to more clearly describe the presently claimed invention.

In response to the Examiner's objection at point number 10 of the Office Action, Applicant has reviewed the instant specification and makes the present amendments to correct the form of trademarks used therein.

Regarding the Examiner's objection at point number 11 of the Office Action concerning antecedent bases for limitations recited in claims 64, 67, 68, 70, and 71, Applicant points out that these claims have been cancelled by the current amendment.

Claim rejections under 35 U.S.C. §112, second paragraph

Claim 70 stands rejected under 35 U.S.C. §112, second paragraph, as allegedly being indefinite for use of the phrase "BTLA signaling activity". Without addressing the propriety of the rejection, Applicant points out that claim 70 has been cancelled by the current amendment, obviating the rejection.

Claim rejections under 35 U.S.C. §112, first paragraph – new matter

Claims 64, 67, 68, 70, 73-78, and 88-91 stand rejected under 35 U.S.C. § 112, first paragraph, as allegedly containing subject matter not described in the as-filed specification. Applicant respectfully traverses.

Preliminarily, Applicant points out that claims 64, 67, 68, 70, 73, and 88-90 have been cancelled without admission or disclaimer by the present amendment, and dependent claims 74-78 no longer depend from claims 64 or 73. Regarding claim 91, Applicant directs the Examiner to page 18, line 23 of the specification, which states:

In one aspect, the present invention provides nucleic acids encoding BTLA proteins, and BTLA proteins so encoded, which are capable of modulating T cell activation.

The Examiner's attention is also directed to page 19, line 36, which states:

In a preferred embodiment, BTLA proteins provided herein comprise an amino acid sequence having at least about 80%, more preferably at least about 85%, more preferably at least about 90%, more preferably at least about 95%, more preferably at least about 98% identity to the amino acid sequences set forth in SEQ ID NO:8 or 10. In a preferred embodiment, the BTLA protein comprises the amino acid sequence set forth in SEQ ID NO:8 or 10.

Applicant submits that the present specification clearly describes the presently claimed BTLA nucleic acids encoding BTLA proteins in such a way as to convey to one of reasonable skill in the art that Applicant had possession of the invention at the time the application was filed. Applicant submits that no new matter is disclosed in pending claims 74-78 and 91-94 as currently amended and respectfully request withdrawal of the rejections and allowance of the claims.

Claim rejections under 35 U.S.C. §112, first paragraph – written description

Claims 64, 67, 68, 70, 73-78, and 88-91 stand rejected under 35 U.S.C. §112, first paragraph, as allegedly lacking written description support in the specification. Applicant respectfully traverses.

As a preliminary matter, Applicant points out that claims 64, 67, 68, 70, 73, and 88-90 have been cancelled without admission or disclaimer by the present amendment, and dependent claims 74-78 no longer depend from claims 64 or 73.

The Office Action expresses that the claims do not provide sufficient characteristics of the genus of claimed nucleic acids to convey to one of reasonable skill in the art that Applicant had possession of the claimed invention at the time of filing. Without admission or disclaimer, in the interest of furthering prosecution, Applicant has cancelled claims directed to nucleic acids having at least about 85%, 90%, or 95% identity to SEQ ID NO:7, as well as claims directed to nucleic acids encoding an amino acid sequence having at least about 85% or 90% identity to SEQ ID NO:8. Additionally, Applicant has presently amended claim 91, which is directed to nucleic acids encoding a BTLA protein having at least 95% identity to SEQ ID NO:8, to insert limitations in respect of the encoded BTLA proteins and thereby provide additional identifying structural and functional characteristics of the claimed nucleic acids. In particular, amended claim 91, and claims 92-94 depending therefrom, recite that the encoded BTLA protein comprises an extracellular V-like Ig domain, a transmembrane region, and an intracellular domain, and is capable of inducible association with SHP-2 in T cells. Applicant submits that amended claims 91 and 92, new claims 93 and 94, and claims 74-78 which incorporate the limitations of claims 91-94, satisfy the written description requirements of 35 U.S.C. §112, first paragraph, and respectfully request withdrawal of the rejections and allowance of the claims.

Rejections under 35 U.S.C. §112, first paragraph – enablement

Claims 64, 67, 68, 70, 73-78, and 88-91 stand rejected under 35 U.S.C. §112, first paragraph, as allegedly lacking enablement. Applicant respectfully traverses.

As a preliminary matter, Applicant points out that claims 64, 67, 68, 70, 73, and 88-90 have been cancelled without admission or disclaimer by the present amendment, and dependent claims 74-78 no longer depend from claims 64 or 73.

While acknowledging that the specification enables a recombinant BTLA nucleic acid comprising SEQ ID NO:7 or encoding a polypeptide comprising the amino acids sequence set forth in SEQ ID NO:8, the Office Action asserts that claims directed to a nucleic acid having at least about 85%, 90%, or 95% identity to SEQ ID NO:7, or encoding a polypeptide having at least about 85%, 90%, or 95% identity to SEQ ID NO:8 are not enabled.

Without admission or disclaimer, in the interest of furthering prosecution, Applicant has cancelled claims directed to nucleic acids having at least about 85%, 90%, or 95% identity to SEQ ID NO:7, as well as claims directed to nucleic acids encoding an amino acid sequence having at least about 85% or 90% identity to SEQ ID NO:8. Further, claim 91 has been amended to recite additional identifying structural and functional characteristics of the claimed nucleic acids. In particular, amended claim 91, and claims 92-94 depending therefrom, recite that the encoded BTLA protein comprises an extracellular V-like Ig domain, a transmembrane region, and an intracellular domain, and is capable of inducible association with SHP-2 in T cells. Moreover, the instant specification teaches methods for determining such nucleic acid functionalities (e.g., see example 7 of the instant

specification). Applicant submits that the claims as presently amended are fully enabled by the specification and respectfully requests withdrawal of the rejections and allowance of the claims.

Claim rejections under 35 U.S.C. §102

Claims 64, 67, 68, 70, 71, 73, and 88-92 stand rejected under 35 U.S.C. §102(a) as being anticipated by Watanabe et al., (NCBI Accession Number AY293286; 05/08/2003). Claims 64, 67, 68, 70, 71, 73, and 88-92 stand rejected under 35 U.S.C. §102(a) as being anticipated by Watanabe et al., (NCBI Accession Number AY293286; 05/08/2003) as evidenced by Watanabe et al., (Nat. Immunol., 4:670-679, 2003) and pGEM-T technical manual (Promega, 2005, page 2). Claims 64, 67, 68, 70, 73-78, and 88-92 stand rejected under 35 U.S.C. §102(e) as being anticipated by Clark et al., U.S. Patent Publication No. 2004/0091884. Applicant respectfully traverses.

Watanabe et al.

The coauthors of the 5 May 2003 direct submission listed at NCBI accession no. AY293286, namely K. Murphy, N. Watanabe, J. Yang, and T. Murphy, are the coinventors of the present application. Accordingly, the Watanabe reference does not qualify as prior art under 35 U.S.C. §102(a). Moreover, the accompanying declaration of Kenneth Murphy, Theresa Murphy, Norihiko Watanabe, and Jianfei Yang establishes that Applicant was in possession of the presently claimed subject matter prior to 5 May 2003. Applicant requests withdrawal of the rejections and allowance of the claims.

Clark et al.

Regarding Clark et al., Applicant directs the Examiner to the executed declaration of Kenneth Murphy, Theresa Murphy, Norihiko Watanabe, and Jianfei Yang, submitted herewith under 35 U.S.C. §1.131, which establishes that Applicant was in possession of the presently claimed subject matter prior to 25 October 2002, the priority date claimed by Clark et al. Accordingly, Applicant submits that the Clark reference does not qualify as prior art under 35 U.S.C. §102(e). Applicant requests withdrawal of the rejections and allowance of the claims.


CONCLUSION

Applicant respectfully submits that all pending claims of the present application satisfy the requirements for patentability and are in condition for allowance. Early indication of the same is therefore respectfully requested.

If a telephone call will help expedite any aspect of the prosecution of the instant application the Examiner is encouraged to contact the undersigned at 415-781-1989, or by facsimile at 415-398-3249.

Respectfully submitted,
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